

WHAT IS CLAIMED IS:

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1. A recording-medium conveying device
conveying a recording medium to an image recording part,
the recording medium being separated and fed from a
recording-medium feeding device, the recording-medium
10 conveying device comprising:

a conveying belt wound around a driving roller
and a driven roller so as to convey said recording
medium to said image recording part, the conveying belt
having an insulating layer formed at at least a side
15 contacting said recording medium; and

a belt charging unit provided in contact with
said conveying belt so as to charge said conveying belt
with a positive charge and a negative charge alternately
in a moving direction of said conveying belt by applying
20 an AC bias to said conveying belt.

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2. A recording-medium conveying device

conveying a recording medium to an image recording part,
the recording medium being separated and fed from a
recording-medium feeding device by a separating unit
thereof, the recording-medium conveying device

5 comprising:

a conveying belt wound around a driving roller
and a driven roller so as to convey said recording
medium to said image recording part, the conveying belt
having a two-layer structure composed of an insulating
10 layer formed at one side contacting said recording
medium and a conductive layer formed at the other side
not contacting said recording medium;

a belt charging unit provided in contact with
said insulating layer in a vicinity of said separating
15 unit so as to charge said insulating layer with a
positive charge and a negative charge alternately in a
moving direction of said conveying belt by applying an
AC bias to said conveying belt; and

a pressing roller pressing said conveying belt
20 against said driving roller by exerting an elastic force
so as to prevent said conveying belt from slipping on
said driving roller.

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3. A recording-medium conveying device conveying a recording medium to an image recording part, the recording medium being separated and fed from a recording-medium feeding device by a separating unit
5 thereof, the recording-medium conveying device comprising:

a conveying belt wound around a central part of a driving roller and a central part of a driven roller so as to convey said recording medium to said
10 image recording part, the conveying belt being narrower than said recording medium, and having a two-layer structure composed of an insulating layer formed at one side contacting said recording medium and a conductive layer formed at the other side not contacting said
15 recording medium;

conveyance guides provided at both sides of said conveying belt in a widthwise direction thereof in said image recording part, the conveyance guides having a plurality of ribs and recession grooves alternately,
20 each of said ribs and said recession grooves being aligned along a conveying direction of said recording medium;

a belt charging unit provided in contact with said insulating layer in a vicinity of said separating
25 unit so as to charge said insulating layer with a

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positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt; and

a pressing roller pressing said conveying belt
5 against said driving roller by exerting an elastic force so as to prevent said conveying belt from slipping on said driving roller.

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4. The recording-medium conveying device as claimed in claim 2, wherein a surface of said driving roller is cured.

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5. The recording-medium conveying device as
20 claimed in claim 3, wherein a surface of said driving roller is cured.

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6. The recording-medium conveying device as claimed in claim 4, wherein the surface of said driving roller is cured by being coated with urethane.

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7. The recording-medium conveying device as claimed in claim 5, wherein the surface of said driving
10 roller is cured by being coated with urethane.

15 8. A recording-medium conveying device conveying a recording medium to an image recording part, the recording medium being separated and fed from a recording-medium feeding device by a separating unit thereof, the recording-medium conveying device
20 comprising:

a conveying belt wound around a driving roller and a driven roller so as to convey said recording medium to said image recording part, the conveying belt having a two-layer structure composed of an insulating
25 layer formed at one side contacting said recording

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medium and a conductive layer formed at the other side not contacting said recording medium; and

5 a belt charging unit provided in contact with said insulating layer in a vicinity of said separating unit so as to charge said insulating layer with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt,

10 wherein at least one of said driving roller and said driven roller is a grip roller having a plurality of projections.

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9. A recording-medium conveying device conveying a recording medium to an image recording part, the recording medium being separated and fed from a recording-medium feeding device by a separating unit
20 thereof, the recording-medium conveying device comprising:

a conveying belt wound around a central part of a driving roller and a central part of a driven roller so as to convey said recording medium to said
25 image recording part, the conveying belt being narrower

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than said recording medium, and having a two-layer structure composed of an insulating layer formed at one side contacting said recording medium and a conductive layer formed at the other side not contacting said

5 recording medium;

conveyance guides provided at both sides of said conveying belt in a widthwise direction thereof in said image recording part, the conveyance guides having a plurality of ribs and recession grooves alternately, 10 each of said ribs and said recession grooves being aligned along a conveying direction of said recording medium; and

a belt charging unit provided in contact with said insulating layer in a vicinity of said separating 15 unit so as to charge said insulating layer with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt,

wherein at least one of said driving roller 20 and said driven roller is a grip roller having a plurality of projections.

10. A recording-medium conveying device
conveying a recording medium to an image recording part,
the recording medium being separated and fed from a
recording-medium feeding device by a separating unit
5 thereof, the recording-medium conveying device
comprising:

a conveying belt wound around a driving roller
and a driven roller so as to convey said recording
medium to said image recording part, the conveying belt
10 having a two-layer structure composed of an insulating
layer formed at one side contacting said recording
medium and a timing belt formed by a conductive layer at
the other side not contacting said recording medium; and

a belt charging unit provided in contact with
15 said insulating layer in a vicinity of said separating
unit so as to charge said insulating layer with a
positive charge and a negative charge alternately in a
moving direction of said conveying belt by applying an
AC bias to said conveying belt.

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11. A recording-medium conveying device
25 conveying a recording medium to an image recording part,

the recording medium being separated and fed from a recording-medium feeding device by a separating unit thereof, the recording-medium conveying device comprising:

5 a conveying belt wound around a central part of a driving roller and a central part of a driven roller so as to convey said recording medium to said image recording part, the conveying belt being narrower than said recording medium, and having a two-layer
10 structure composed of an insulating layer formed at one side contacting said recording medium and a timing belt formed by a conductive layer at the other side not contacting said recording medium; and

 conveyance guides provided at both sides of
15 said conveying belt in a widthwise direction thereof in said image recording part, the conveyance guides having a plurality of ribs and recession grooves alternately, each of said ribs and said recession grooves being aligned along a conveying direction of said recording
20 medium; and

 a belt charging unit provided in contact with said insulating layer in a vicinity of said separating unit so as to charge said insulating layer with a positive charge and a negative charge alternately in a
25 moving direction of said conveying belt by applying an

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AC bias to said conveying belt.

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12. The recording-medium conveying device as claimed in claim 10, wherein said timing belt is formed at at least a part of said other side of said conveying belt.

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13. The recording-medium conveying device as claimed in claim 11, wherein said timing belt is formed at at least a part of said other side of said conveying belt.

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14. The recording-medium conveying device as claimed in claim 2, wherein one of said driving roller and said driven roller positioned upstream in a conveying direction of said recording medium has a large

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diameter, and the other of said driving roller and said driven roller positioned downstream in the conveying direction of said recording medium has a small diameter.

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10 15. The recording-medium conveying device as claimed in claim 3, wherein one of said driving roller and said driven roller positioned upstream in the conveying direction of said recording medium has a large diameter, and the other of said driving roller and said driven roller positioned downstream in the conveying direction of said recording medium has a small diameter.

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20 16. A recording-medium conveying device conveying a recording medium to an image recording part, the recording medium being separated and fed from a recording-medium feeding device, the recording-medium conveying device comprising:

25 a conveying belt wound around a driving roller and a driven roller, the driving roller being connected

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to a ground, so as to convey said recording medium to said image recording part, the conveying belt having an insulating layer formed at a side contacting said recording medium;

5 a belt charging unit provided opposite said driving roller at a position upstream in a revolving direction of said driving roller from a position at which said recording medium fed from said recording-medium feeding device contacts said conveying belt wound
10 around said driving roller so as to charge said conveying belt with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt; and

15 a pressing roller provided opposite said driving roller at a position downstream in the revolving direction of said driving roller from said belt charging unit so as to press said recording medium stuck fast to said conveying belt closely to said conveying belt.

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17. The recording-medium conveying device as
25 claimed in claim 16, wherein the AC bias is impressed to

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said belt charging unit when said recording medium is conveyed.

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18. The recording-medium conveying device as claimed in claim 17, wherein said AC bias is stopped being impressed to said belt charging unit when said recording medium is stopped being conveyed.

19. The recording-medium conveying device as claimed in claim 16, wherein the AC bias is impressed to said belt charging unit while said conveying belt is continuously revolved, before said recording medium is conveyed.

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20. The recording-medium conveying device as claimed in claim 1, wherein said belt charging unit

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applies said AC bias to said conveying belt while said
conveying belt conveys said recording medium, and said
belt charging unit stops applying said AC bias to said
conveying belt while said conveying belt stops conveying
5 said recording medium.

10 21. The recording-medium conveying device as
claimed in claim 1, wherein said belt charging unit
applies said AC bias to said conveying belt while said
conveying belt is continuously revolved, before said
conveying belt conveys said recording medium.

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22. The recording-medium conveying device as
20 claimed in claim 1, wherein said conveying belt is
formed of one layer of said insulating layer.

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23. The recording-medium conveying device as claimed in claim 1, wherein said conveying belt is formed of two layers composed of said insulating layer formed at one side contacting said recording medium and
5 a conductive layer formed at the other side not contacting said recording medium.

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24. The recording-medium conveying device as claimed in claim 1, wherein said insulating layer has a volume resistivity equal to or more than $10^{12} \Omega\text{cm}$.

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25. The recording-medium conveying device as claimed in claim 1, further comprising conveyance guides
20 provided at both sides of said conveying belt in a widthwise direction thereof so as to guide said recording medium, the conveying belt being formed narrower than said recording medium.

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26. The recording-medium conveying device as
claimed in claim 25, wherein said conveyance guides
comprise a plurality of ribs and recession grooves
alternately, each of said ribs and said recession
5 grooves being aligned along a conveying direction of
said recording medium.

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27. The recording-medium conveying device as
claimed in claim 1, further comprising a pressing roller
pressing said conveying belt against said driving roller
by exerting an elastic force so as to prevent said
15 conveying belt from slipping on said driving roller.

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28. The recording-medium conveying device as
claimed in claim 27, wherein said pressing roller is
provided at a position downstream in a revolving
direction of said driving roller.

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29. The recording-medium conveying device as claimed in claim 1, wherein at least said driving roller among said driving roller and said driven roller has a plurality of projections on a surface thereof.

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30. The recording-medium conveying device as claimed in claim 1, wherein said conveying belt is formed of a timing belt.

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31. A conveyance control device controlling a recording-medium conveying device conveying a recording medium to an image recording part, the recording medium being separated and fed from a recording-medium feeding device by a separating unit thereof, the recording-medium conveying device including:

a conveying belt wound around a driving roller and a driven roller so as to convey said recording medium to said image recording part, the conveying belt having a two-layer structure composed of an insulating

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layer formed at one side contacting said recording medium and a conductive layer formed at the other side not contacting said recording medium;

5 a belt charging unit provided in contact with said insulating layer in a vicinity of said separating unit so as to charge said insulating layer with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt; and

10 a pressing roller pressing said conveying belt against said driving roller by exerting an elastic force so as to prevent said conveying belt from slipping on said driving roller,

the conveyance control device comprising:

15 a binary scale provided on a part of said conveying belt along the moving direction thereof,

wherein one of a reflected light and a transmitted light from said binary scale is detected so as to control a revolving velocity and a stopping
20 position of said driving roller.

25 32. A conveyance control device controlling a

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recording-medium conveying device conveying a recording medium to an image recording part, the recording medium being separated and fed from a recording-medium feeding device by a separating unit thereof, the recording-

5 medium conveying device including:

a conveying belt wound around a central part of a driving roller and a central part of a driven roller so as to convey said recording medium to said image recording part, the conveying belt being narrower
10 than said recording medium, and having a two-layer structure composed of an insulating layer formed at one side contacting said recording medium and a conductive layer formed at the other side not contacting said recording medium;

15 conveyance guides provided at both sides of said conveying belt in a widthwise direction thereof in said image recording part, the conveyance guides having a plurality of ribs and recession grooves alternately, each of said ribs and said recession grooves being
20 aligned along a conveying direction of said recording medium;

a belt charging unit provided in contact with said insulating layer in a vicinity of said separating unit so as to charge said insulating layer with a
25 positive charge and a negative charge alternately in a

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moving direction of said conveying belt by applying an
AC bias to said conveying belt; and

a pressing roller pressing said conveying belt
against said driving roller by exerting an elastic force
5 so as to prevent said conveying belt from slipping on
said driving roller,

the conveyance control device comprising:

a binary scale provided on a part of said
conveying belt along the moving direction thereof,
10 wherein one of a reflected light and a
transmitted light from said binary scale is detected so
as to control a revolving velocity and a stopping
position of said driving roller.

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33. The conveyance control device as claimed
in claim 31, further comprising an optical sensor
20 provided opposite a part of said conveying belt
downstream from and near said driving roller so as to
detect one of said reflected light and said transmitted
light.

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34. The conveyance control device as claimed
in claim 32, further comprising an optical sensor
provided opposite a part of said conveying belt
downstream from and near said driving roller so as to
5 detect one of said reflected light and said transmitted
light.

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35. The conveyance control device as claimed
in claim 31, further comprising an optical sensor
provided opposite a part of said conveying belt
corresponding to said image recording part so as to
15 detect said reflected light.

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36. The conveyance control device as claimed
in claim 32, further comprising an optical sensor
provided opposite a part of said conveying belt
corresponding to said image recording part so as to
detect said reflected light.

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37. A conveyance control device controlling a recording-medium conveying device conveying a recording medium to an image recording part, the recording medium being separated and fed from a recording-medium feeding device, the recording-medium conveying device including:

5 a conveying belt wound around a driving roller and a driven roller so as to convey said recording medium to said image recording part, the conveying belt having an insulating layer formed at at least a side contacting said recording medium; and

10 a belt charging unit provided in contact with said conveying belt so as to charge said conveying belt with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt,

15 the conveyance control device comprising:

a conveyance distance detecting unit detecting one of a conveyance speed and a conveyance distance of said conveying belt; and

20 a conveying-belt driving unit driving said driving roller,

wherein said conveying-belt driving unit is controlled according to one of said conveyance speed and said conveyance distance detected by said conveyance distance detecting unit.

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38. The conveyance control device as claimed in claim 37, wherein said conveyance distance detecting unit comprises:

5 a binary scale provided on one of an outer surface and an inner surface of said conveying belt; and
a read sensor reading said binary scale,
wherein said binary scale has pitches arranged at an interval corresponding to a value obtained by dividing a maximum resolution of an image to be recorded on said recording medium by n , where n is an integer
10 larger than zero.

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39. The conveyance control device as claimed in claim 37, wherein said conveyance distance detecting unit comprises an encoder provided on a rotary shaft of said driving roller,

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wherein said driving roller has a diameter determined such that a conveyance distance of said conveying belt corresponding to one pulse output by said encoder becomes a value obtained by dividing a maximum resolution of an image to be recorded on said recording
25 medium by n , where n is an integer larger than zero.

40. An inkjet recording device comprising:

a recording head in an image recording part so as to record an image by jetting ink drops on a recording medium;

5 a recording-medium feeding device containing said recording medium, and separating and feeding said recording medium one by one therefrom; and

a recording-medium conveying device including:

10 a conveying belt wound around a driving roller and a driven roller so as to convey said recording medium to said image recording part, the conveying belt having an insulating layer formed at at least a side contacting said recording medium; and

15 a belt charging unit provided in contact with said conveying belt so as to charge said conveying belt with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt.

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41. An inkjet recording device comprising:

25 a recording head mounted on a carriage in an image recording part so as to record an image by jetting

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ink drops on a recording medium;

a recording-medium feeding device containing said recording medium, and separating and feeding said recording medium one by one therefrom; and

5 a recording-medium conveying device including:

a conveying belt wound around a driving roller and a driven roller so as to convey said recording medium to said image recording part, the conveying belt having an insulating layer formed at at least a side

10 contacting said recording medium; and

a belt charging unit provided in contact with said conveying belt so as to charge said conveying belt with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying
15 an AC bias to said conveying belt.

20 42. An inkjet recording device comprising:

a recording head mounted on a carriage in an image recording part so as to record an image by jetting ink drops on a recording medium;

a recording-medium feeding device containing
25 said recording medium, and separating and feeding said

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recording medium one by one therefrom by a separating unit thereof; and

a recording-medium conveying device including:

a conveying belt wound around a driving roller

5 and a driven roller so as to convey said recording medium to said image recording part, the conveying belt having a two-layer structure composed of an insulating layer formed at one side contacting said recording medium and a conductive layer formed at the other side
10 not contacting said recording medium;

a belt charging unit provided in contact with said insulating layer in a vicinity of said separating unit so as to charge said insulating layer with a positive charge and a negative charge alternately in a
15 moving direction of said conveying belt by applying an AC bias to said conveying belt; and

a pressing roller pressing said conveying belt against said driving roller by exerting an elastic force so as to prevent said conveying belt from slipping on
20 said driving roller.

25 43. An inkjet recording device comprising:

a recording head mounted on a carriage in an image recording part so as to record an image by jetting ink drops on a recording medium;

5 a recording-medium feeding device containing said recording medium, and separating and feeding said recording medium one by one therefrom by a separating unit thereof; and

a recording-medium conveying device including:

10 a conveying belt wound around a central part of a driving roller and a central part of a driven roller so as to convey said recording medium to said image recording part, the conveying belt being narrower than said recording medium, and having a two-layer structure composed of an insulating layer formed at one
15 side contacting said recording medium and a conductive layer formed at the other side not contacting said recording medium;

conveyance guides provided at both sides of said conveying belt in a widthwise direction thereof in
20 said image recording part, the conveyance guides having a plurality of ribs and recession grooves alternately, each of said ribs and said recession grooves being aligned along a conveying direction of said recording medium;

25 a belt charging unit provided in contact with

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said insulating layer in a vicinity of said separating unit so as to charge said insulating layer with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an

5 AC bias to said conveying belt; and

a pressing roller pressing said conveying belt against said driving roller by exerting an elastic force so as to prevent said conveying belt from slipping on said driving roller.

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44. The inkjet recording device as claimed in
15 claim 42, wherein a surface of said driving roller is cured.

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45. The inkjet recording device as claimed in claim 43, wherein a surface of said driving roller is cured.

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46. The inkjet recording device as claimed in claim 44, wherein the surface of said driving roller is cured by being coated with urethane.

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47. The inkjet recording device as claimed in claim 45, wherein the surface of said driving roller is cured by being coated with urethane.

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48. An inkjet recording device comprising:
a recording head mounted on a carriage in an image recording part so as to record an image by jetting ink drops on a recording medium;

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a recording-medium feeding device containing said recording medium, and separating and feeding said recording medium one by one therefrom by a separating unit thereof; and

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a recording-medium conveying device including:
a conveying belt wound around a driving roller and a driven roller so as to convey said recording

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5 not contacting said recording medium; and

10 moving direction of said conveying belt by applying an
AC bias to said conveying belt,

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20 a recording head mounted on a carriage in an
image recording part so as to record an image by jetting
ink drops on a recording medium;

25 recording medium one by one therefrom by a separating

unit thereof; and

a recording-medium conveying device including:

a conveying belt wound around a central part
of a driving roller and a central part of a driven
5 roller so as to convey said recording medium to said
image recording part, the conveying belt being narrower
than said recording medium, and having a two-layer
structure composed of an insulating layer formed at one
side contacting said recording medium and a conductive
10 layer formed at the other side not contacting said
recording medium;

conveyance guides provided at both sides of
said conveying belt in a widthwise direction thereof in
said image recording part, the conveyance guides having
15 a plurality of ribs and recession grooves alternately,
each of said ribs and said recession grooves being
aligned along a conveying direction of said recording
medium; and

a belt charging unit provided in contact with
20 said insulating layer in a vicinity of said separating
unit so as to charge said insulating layer with a
positive charge and a negative charge alternately in a
moving direction of said conveying belt by applying an
AC bias to said conveying belt,

25 wherein at least one of said driving roller

and said driven roller is a grip roller having a plurality of projections.

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50. An inkjet recording device comprising:

a recording head mounted on a carriage in an image recording part so as to record an image by jetting
10 ink drops on a recording medium;

a recording-medium feeding device containing said recording medium, and separating and feeding said recording medium one by one therefrom by a separating unit thereof; and

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a recording-medium conveying device including:

a conveying belt wound around a driving roller and a driven roller so as to convey said recording medium to said image recording part, the conveying belt having a two-layer structure composed of an insulating
20 layer formed at one side contacting said recording medium and a timing belt formed by a conductive layer at the other side not contacting said recording medium; and

a belt charging unit provided in contact with said insulating layer in a vicinity of said separating
25 unit so as to charge said insulating layer with a

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positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt.

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51. An inkjet recording device comprising:

10 a recording head mounted on a carriage in an image recording part so as to record an image by jetting ink drops on a recording medium;

15 a recording-medium feeding device containing said recording medium, and separating and feeding said recording medium one by one therefrom by a separating unit thereof; and

20 a recording-medium conveying device including:
a conveying belt wound around a central part of a driving roller and a central part of a driven roller so as to convey said recording medium to said image recording part, the conveying belt being narrower than said recording medium, and having a two-layer structure composed of an insulating layer formed at one side contacting said recording medium and a timing belt formed by a conductive layer at the other side not
25 contacting said recording medium; and

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conveyance guides provided at both sides of
said conveying belt in a widthwise direction thereof in
said image recording part, the conveyance guides having
a plurality of ribs and recession grooves alternately,
5 each of said ribs and said recession grooves being
aligned along a conveying direction of said recording
medium; and

a belt charging unit provided in contact with
said insulating layer in a vicinity of said separating
10 unit so as to charge said insulating layer with a
positive charge and a negative charge alternately in a
moving direction of said conveying belt by applying an
AC bias to said conveying belt.

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52. The inkjet recording device as claimed in
claim 50, wherein said timing belt is formed at at least
20 a part of said other side of said conveying belt.

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53. The inkjet recording device as claimed in

claim 51, wherein said timing belt is formed at at least
a part of said other side of said conveying belt.

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54. The inkjet recording device as claimed in
claim 42, wherein one of said driving roller and said
driven roller positioned upstream in a conveying
10 direction of said recording medium has a large diameter,
and the other of said driving roller and said driven
roller positioned downstream in the conveying direction
of said recording medium has a small diameter.

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55. The inkjet recording device as claimed in
claim 43, wherein one of said driving roller and said
20 driven roller positioned upstream in the conveying
direction of said recording medium has a large diameter,
and the other of said driving roller and said driven
roller positioned downstream in the conveying direction
of said recording medium has a small diameter.

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56. The inkjet recording device as claimed in claim 42, further comprising a binary scale provided on a part of said conveying belt along the moving direction thereof,

5 wherein one of a reflected light and a transmitted light from said binary scale is detected so as to control a revolving velocity and a stopping position of said driving roller.

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57. The inkjet recording device as claimed in claim 43, further comprising a binary scale provided on a part of said conveying belt along the moving direction thereof,

15 wherein one of a reflected light and a transmitted light from said binary scale is detected so as to control a revolving velocity and a stopping position of said driving roller.

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25 58. An inkjet recording device comprising:

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a recording head mounted on a carriage in an image recording part so as to record an image by jetting ink drops on a recording medium;

a recording-medium feeding device containing
5 said recording medium, and separating and feeding said recording medium one by one therefrom; and

a recording-medium conveying device including:

a conveying belt wound around a driving roller and a driven roller, the driving roller being connected
10 to a ground, so as to convey said recording medium to said image recording part, the conveying belt having an insulating layer formed at a side contacting said recording medium;

a belt charging unit provided opposite said
15 driving roller at a position upstream in a revolving direction of said driving roller from a position at which said recording medium fed from said recording-medium feeding device contacts said conveying belt wound around said driving roller so as to charge said
20 conveying belt with a positive charge and a negative charge alternately in a moving direction of said conveying belt by applying an AC bias to said conveying belt; and

a pressing roller provided opposite said
25 driving roller at a position downstream in the revolving

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direction of said driving roller from said belt charging unit so as to press said recording medium stuck fast to said conveying belt closely to said conveying belt.

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59. The inkjet recording device as claimed in claim 41, wherein said belt charging unit applies said
10 AC bias to said conveying belt while said conveying belt conveys said recording medium, and said belt charging unit stops applying said AC bias to said conveying belt while said conveying belt stops conveying said recording medium.

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60. The inkjet recording device as claimed in claim 41, wherein said belt charging unit applies said
20 AC bias to said conveying belt while said conveying belt is continuously revolved, before said conveying belt conveys said recording medium.

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61. The inkjet recording device as claimed in claim 41, wherein said conveying belt is formed of one layer of said insulating layer.

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62. The inkjet recording device as claimed in claim 41, wherein said conveying belt is formed of two layers composed of said insulating layer formed at one side contacting said recording medium and a conductive layer formed at the other side not contacting said recording medium.

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63. The inkjet recording device as claimed in claim 41, wherein said insulating layer has a volume resistivity equal to or more than $10^{12} \Omega\text{cm}$.

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64. The inkjet recording device as claimed in

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claim 41, wherein said recording-medium conveying device further includes conveyance guides provided at both sides of said conveying belt in a widthwise direction thereof so as to guide said recording medium, the
5 conveying belt being formed narrower than said recording medium.

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65. The inkjet recording device as claimed in claim 64, wherein said conveyance guides comprise a plurality of ribs and recession grooves alternately, each of said ribs and said recession grooves being
15 aligned along a conveying direction of said recording medium.

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66. The inkjet recording device as claimed in claim 41, wherein said recording-medium conveying device further includes a pressing roller pressing said conveying belt against said driving roller by exerting
25 an elastic force so as to prevent said conveying belt

from slipping on said driving roller.

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67. The inkjet recording device as claimed in claim 66, wherein said pressing roller is provided at a position downstream in a revolving direction of said driving roller.

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68. The inkjet recording device as claimed in claim 41, wherein at least said driving roller among said driving roller and said driven roller has a plurality of projections on a surface thereof.

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69. The inkjet recording device as claimed in claim 41, wherein said conveying belt is formed of a timing belt.

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70. The inkjet recording device as claimed in claim 41, further comprising:

a conveyance distance detecting unit detecting one of a conveyance speed and a conveyance distance of said conveying belt; and

a conveying-belt driving unit driving said driving roller,

wherein said conveying-belt driving unit is controlled according to one of said conveyance speed and said conveyance distance detected by said conveyance distance detecting unit.

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71. The inkjet recording device as claimed in claim 70, wherein said conveyance distance detecting unit comprises:

a binary scale provided on one of an outer surface and an inner surface of said conveying belt; and

a read sensor reading said binary scale,

wherein said binary scale has pitches arranged at an interval corresponding to a value obtained by dividing a maximum resolution of an image to be recorded on said recording medium by n , where n is an integer

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larger than zero.

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72. The inkjet recording device as claimed in claim 70, wherein said conveyance distance detecting unit comprises an encoder provided on a rotary shaft of said driving roller,

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wherein said driving roller has a diameter determined such that a conveyance distance of said conveying belt corresponding to one pulse output by said encoder becomes a value obtained by dividing a maximum resolution of an image to be recorded on said recording medium by n , where n is an integer larger than zero.

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